

## **CLAIMS**

What is claimed is:

1. A semiconductor device comprising:
  - at least one memory cell configured to generate a first voltage on a first bit line and including a switching device having a first resistance;
  - at least one reference cell configured to generate a second voltage on a second bit line and including:
    - a first resistive element coupled between a voltage source and the second bit line and having a second resistance; and
    - a second resistive element coupled between a sink and the second bit line and having a third resistance; and
  - a sense amplifier for generating an output in response to the first and the second voltages.